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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/179,290 10/27/98 CUIJPERS

M PHN-16.580

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WM31/0620

EXAMINER

ALAVI, A

ART UNIT	PAPER NUMBER
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2621

14

DATE MAILED:

06/20/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/179,290

Applicant(s)

CUIJPERS, MAURICE J.M.

Examiner

Amir Alavi

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Examiner apologizes for any inconvenience created by the late discovery of the newly applied references. Applicant is invited to contact Examiner to discuss any proposals, so as to more rapidly resolve the issues in this case and to expedite agreement as to allowable subject matter.

2. In view of the Appeal Brief filed on April 6, 2001, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (a) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (b) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (U.S. patent 5,606,632) in view of Van Aken et al. (U.S. patent 4,825,390).

Regarding claim 1, Matsumoto et al. disclose defining a subdivision of the output image into regions of image locations (please note fig.1, elements 50 & 90, in correlation to fig.6. A color image-reducing unit 90 comprises a region dividing unit 91 and a reduced image-generating unit 92. The region dividing unit 91 divides each of the

original color images 51a-51d into a plurality of regions or partitions as shown in fig.6); providing a color look-up table (see fig.1 also column 6, lines 66-67 & column 7, lines 1-3, "the corresponding RGB value calculating unit 81 calculates, according to the above equation (2), the RGB value (r_1 , g_1 , b_1) of the reference look-up table 71 closest to the RGB value (r , g , b) for each table entry of the look-up tables 61a-61d"); providing a respective set of references to the color look-up table for each region (see fig.1 also column 6, lines 66-67 & column 7, lines 1-3, "the corresponding RGB value calculating unit 81 calculates, according to the above equation (2), the RGB value (r_1 , g_1 , b_1) of the reference look-up table 71 closest to the RGB value (r , g , b) for each table entry of the look-up tables 61a-61d");

However Matsumoto et al. do not teach: providing a pixel map comprising a selection code for each image location; selecting a particular reference to the color look-up table for a particular image location from the particular set provided for the region to which the particular image location belongs, by using the selection code as a pointer in that particular set; wherein the pixel map is constructed by grouping the image locations in each region into groups according to a similarity of color values in a source image, the selection code identifying the group to which the image location belongs among the groups for the region; wherein the color look-up table is provided for the source image, all color values of the source image being in the color look-up table, the reference used for the image locations in a particular group of the pixel map being constructed from at

least one reference to the color look-up table which defines the color value in the source image for at least one image location in the particular group.

On the other hand Van Aken et al. teach: providing a pixel map comprising a selection code for each image location (see fig.1 & column 3, lines 48-54, "pixel map memory 120 includes a plurality of memory locations selectable via address bus 122. Each pixel color code stored within pixel map memory 120 includes data corresponding to the particular video attributes to be displayed at the corresponding pixel location of video display 150."); selecting a particular reference to the color look-up table for a particular image location from the particular set provided for the region to which the particular image location belongs, by using the selection code as a pointer in that particular set (see fig.2 & column 6, lines 9-12, "in accordance with the particular received pixel color code, addressor 235 selects 1 of the 16 color data registers of color look-up table 230 and outputs the data stored therein."); wherein the pixel map is constructed by grouping the image locations in each region into groups according to a similarity of color values in a source image, the selection code identifying the group to which the image location belongs among the groups for the region (see fig. 1 & column 3, lines 53-57. "Each pixel color code stored within pixel map memory 120 includes data corresponding to the particular video attributes to be displayed at the corresponding pixel location of video display 150. These video attributes include the color and intensity of the particular pixel."); wherein the color look-up table is provided for the source image, all color values of the source image being in the color look-up table, the

reference used for the image locations in a particular group of the pixel map being constructed from at least one reference to the color look-up table which defines the color value in the source image for at least one image location in the particular group. (see fig. 1, element 230 & column 6, lines 9-12, "in accordance with the particular received pixel color code, addressor 235 selects 1 of the 16 color data registers of color look-up table 230 and outputs the data stored therein.").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Matsumoto et al.'s invention according to the teachings of Van Aken et al. by incorporating a pixel map comprising a selection code, because this would facilitate to pinpoint color and intensity of a particular pixel.

Regarding claim 2, Matsumoto et al. disclose, wherein the reference used for the image locations in the particular group is constructed by selecting a representative image location from the particular group and taking the reference defining the color value for the representative image location in the source image. (see fig.1 & column 6, lines 27-30, "The reduced image generating unit 92 accesses the entry check tables 82a-82d and the reference look-up table 71 for each pixel po, thereby loading the RGB value corresponding to the table for the given pixel).

Regarding claim 3, Matsumoto et al. disclose, wherein the representative image location is selected by determining an image property for each image location in the particular group from the color values in the source image for these image Locations in the particular group, and selecting as representative image

Location an image location for which the image property is a median value among the image properties of the image locations in the particular group. (see column 6, lines 34-37, "the representative pixel pr is obtained by means of averaging all RGB values of a given region").

Regarding claim 4, Matsumoto et al. disclose, wherein the representative image location is an image location which has a median value of the image property among the image properties of the image locations in the particular group. (see column 6, lines 34-37, "the representative pixel pr is obtained by means of averaging all RGB values of a given region").

Regarding claim 5, Matsumoto et al. disclose, wherein the image property is the luminance of the color value in the source image. (see fig. 1 & column 3 lines 53-57. "Each pixel color code stored within pixel map memory 120 includes data corresponding to the particular video attributes to be displayed at the corresponding pixel location of video display 150. These video attributes include the color and intensity of the particular pixel.").

Regarding claim 6, Matsumoto et al. disclose, Wherein the output image represents a pyramid of levels of increasingly higher resolution versions of a basic image, each level being subdivided into regions, the color look-up table being common for all levels, each level being associated, with a respective pixel map, the particular reference to the color look-up table being selected for a particular image location at a particular level, from the particular set provided for the region for that level

according to the pixel map for that level. (see fig.1 & column 7, lines 17-20, "in response to these instructions, the region dividing unit 91 divides the original color image 51a into a plurality of regions. For example, the original color image 51a of 400 by 200 pixels is divided into two thousand regions.).

Regarding claim 7, Van Aken et al. disclose a method, used for texture mapping in computer graphics, wherein the levels are different resolution levels of a mipmap. (see column 1, lines 1-3).

Regarding claims 8-10, arguments analogous to those presented for claim 1 are applicable.

Regarding claims 11 & 12, arguments analogous to those presented for claims 2 & 3, respectively are applicable.

Other prior art cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Work et al. (U. S. patent 4,769,632) is pertinent as teaching color graphics control system.

Sakoda et al. (U. S. patent 5,559,954) is pertinent as teaching method and apparatus for displaying pixels from a multi-format frame buffer.

Sabella et al. (U. S. patent 5,430,465) is pertinent as teaching apparatus and method for managing the assignment of display attribute identification values and multiple hardware color look-up tables.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amir Alavi whose telephone number is (703) 306-5913. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached at (703) 306-5406.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

or faxed to:

(703) 308-9051, or (703) 308-9052 (for **formal** communications; please mark
"EXPEDITED PROCEDURE")

or:

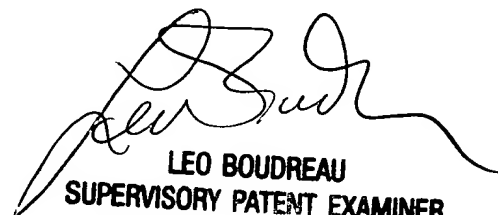
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(703) 306-5406 (for *informal* or *draft* communications, please label "PROPOSED" or "DRAFT")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 305-4750.

Amir Alavi
Patent Examiner
Group Art Unit 2621
June 11, 2001



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